Signtex Inc LIGHTING

Credit: Ashley Capital

Case Study:
Ashley Capital

Details

Project: Ashley Capital - Liberty Park Commerce Center #3

Location: Sterling Heights, MI

Year of Completion: 2019

Architect: Ventura & Associates

General Contractor: Oliver Hatcher Construction & Development

Electrical Contractor: McSweeney Electric: Joe Attard, Director of Field Operations

Sales Representative: Gasser Bush Associates

Size of Building: 569,000 SF

Approx. Area of Emergency Lighting: 569,000 SF

Emergency Lighting System: Central Battery System with remote test panel and ELC P4-CH2-HV

Background

Liberty Park is a 66-acre property located in Sterling Heights near the northeast corner of Mound and 14 Mile Roads. Long known as the strongest industrial corridor in the Detroit area, this site is perfectly situated in the heart of a robust manufacturing and distribution sub-market. A 569,000 SF speculative Class A building, with all of the state-of-the art features Ashley Capital is known for, was completed in late 2019. Developed from a direct call to the specifier, the specification concept is for pre-cast buildings, separated into large sections (typically 40,000 to 50,000 square feet) to be leased out individually, and in some cases large racking throughout.

Lighting design for these spaces is critical, in that generous illumination levels must be provided throughout areas with high ceilings, dictating the use of high bay fixtures throughout, while providing high energy efficiency in a wide variety of storage bays. Typically, linear or circular luminaries are specified with power range from 100W to 500W or more, and 50,000 LM output with multiple light engines, and power input at 277 or 480 VAC. Many of these models are not available with battery packs, since emergency power up to 60W may be required, exceeding the upper limit of most battery packs available today.

Signtex's emergency lighting control Series ELCP4 is ideal for these applications, as it is designed to easily convert all light engines and LED strips in high bay luminaries to emergency operation at 24VDC. Because all LED strips are operating, lighting distribution is identical to normal power conditions, and maximum photometric efficiency is achieved. ELC models are available in a wide power and voltage range, ensuring that any high bay LED luminaire available today can be converted to emergency operation from a central battery located in easily accessible spaces. As shown in the photometric results attached, typical illumination over the entire floor exceeds NFPA Code minimums by about 25%, and uniformity (ratio of maximum to minimum illumination) is half the code specified maximum.

Maintenance of emergency lighting systems

in each storage area is the responsibility of individual tenants, so it is imperative to install an emergency lighting system that not only allows great flexibility in installation in multiple different spaces, but also reduces the tenant's maintenance cost to a minimum. A central battery system reduces maintenance costs by 95% compared to individual battery packs mounted in lighting fixtures, especially when the fixtures are at 30ft or more above the floor.

Signtex Solution

For wiring, Signtex recommended 600V heavy duty conductor #10AWG, with white insulator to match the interior finish, allowing the emergency circuits and fastening brackets to blend cleanly with other equipment in the ceiling space.

To provide maximum clearance for loading and unloading equipment, all central battery panels were mounted high, with remote test switches for easy access at ground level.

The central battery system using Monitoring and Reporting (MARS) software combined with Emergency Lighting Control (ELC) converters in emergency fixtures was a perfect solution for this application, including the following advantages:

- Each tenant space could be easily equipped with one or more central battery panels to control all emergency lighting, allowing independent control and maintenance by the tenant.

- Tenant maintenance savings of more than 90% compared to integral batteries

- If tenant space is changed, low voltage emergency wiring from the central battery and the emergency luminaries themselves are easily modified.

- Signtex ELC allows an unlimited range of High Bay fixtures compared with battery packs. (The Acuity Model IBG fixture selected was not available with a battery option for 480VAC models).

Emergency lighting after actual power failure. All normal lighting is OFF in this photo, showing exceptional uniformity and brightness of illumination on aisle surfaces and storage shelving.

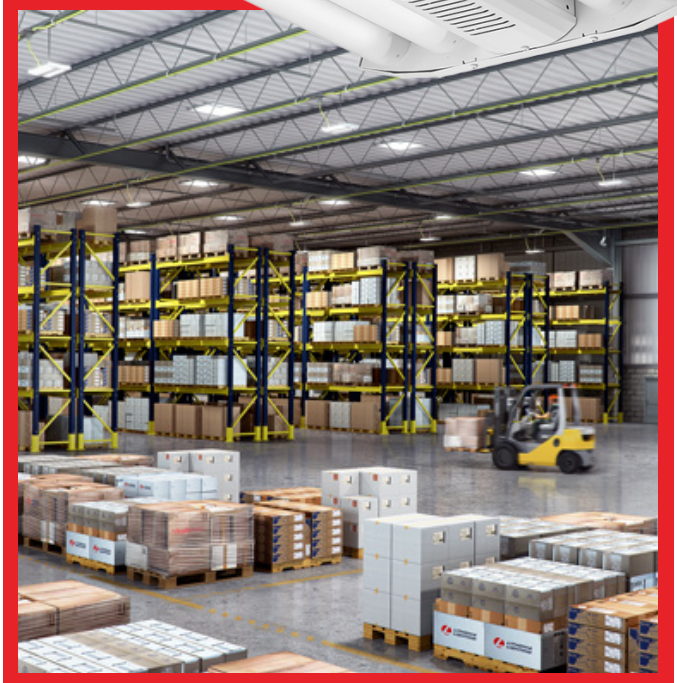
“Ashely Capital has been very satisfied with Signtex Inc. products and services,” said Peter Pfeiffer, Vice President - Property Management of Ashley Capital. “We are planning to continue to specify Signtex central battery systems in our buildings going forward, many of which are between 500,000 and a million square feet. This system is easy for our tenants to maintain, we have not received any complaints. Prior to using Signtex’s central battery systems, we were using individual battery operated units attached to columns which were very time consuming and labor intensive to maintain.”

Joe Attard, Director of Field Operations at McSweeney Electric, stated:

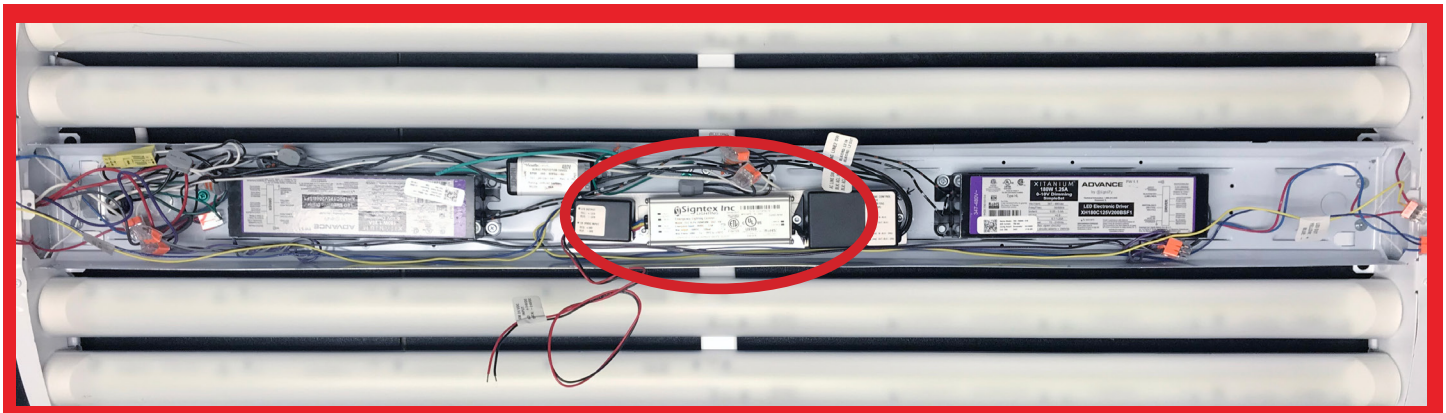
“The city of Sterling Heights was very impressed with the foot candle output by this system. They normally only see the path of egress illuminated, and most times it does not meet code. They were very satisfied.

The construction/design documents, plus the customer support we received from Signtex if we had any question, was exemplary.

The installation of the system itself was relatively easy. We are looking forward to continuing our relationship with Signtex and the emergency lighting system.”



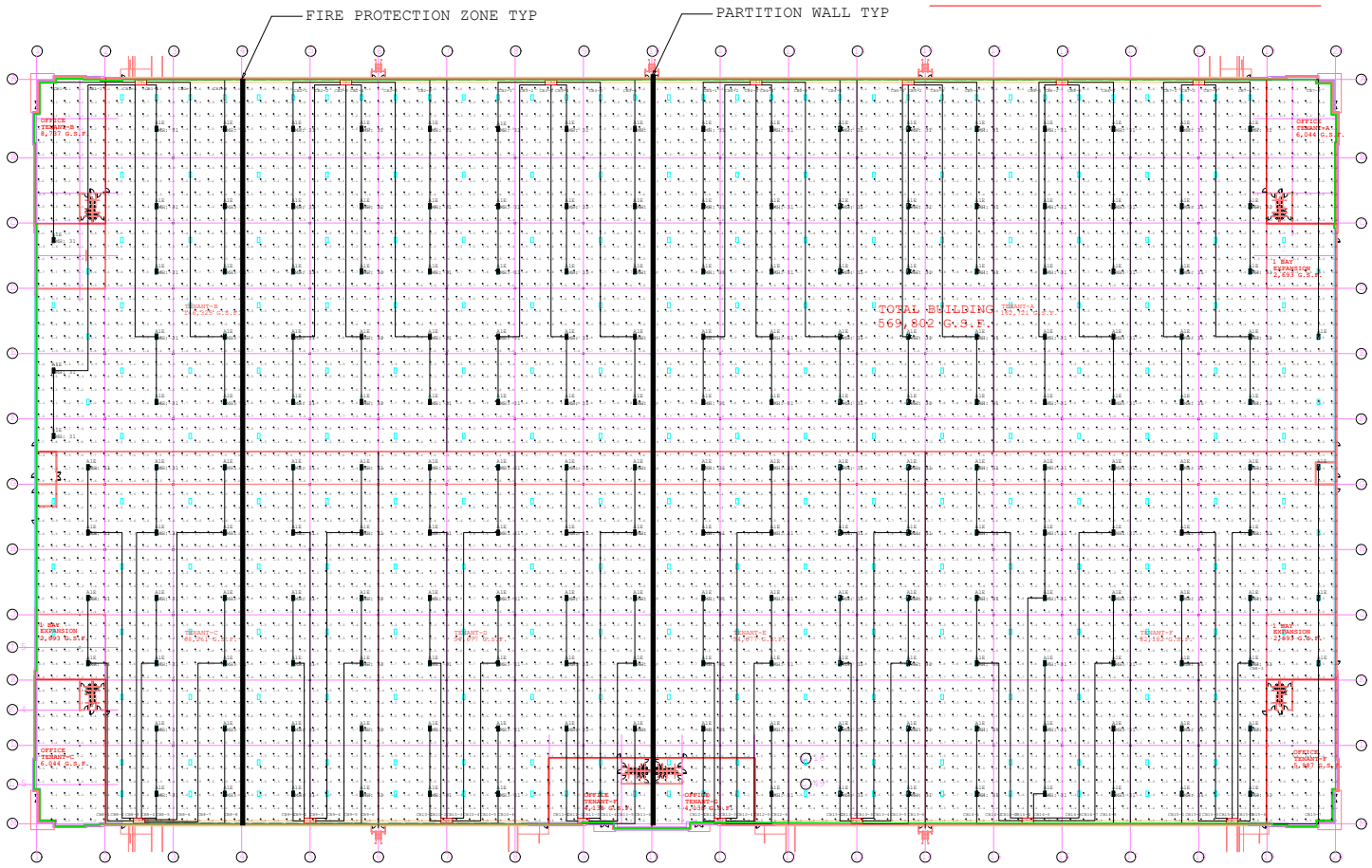
Credit: Acuity Brands

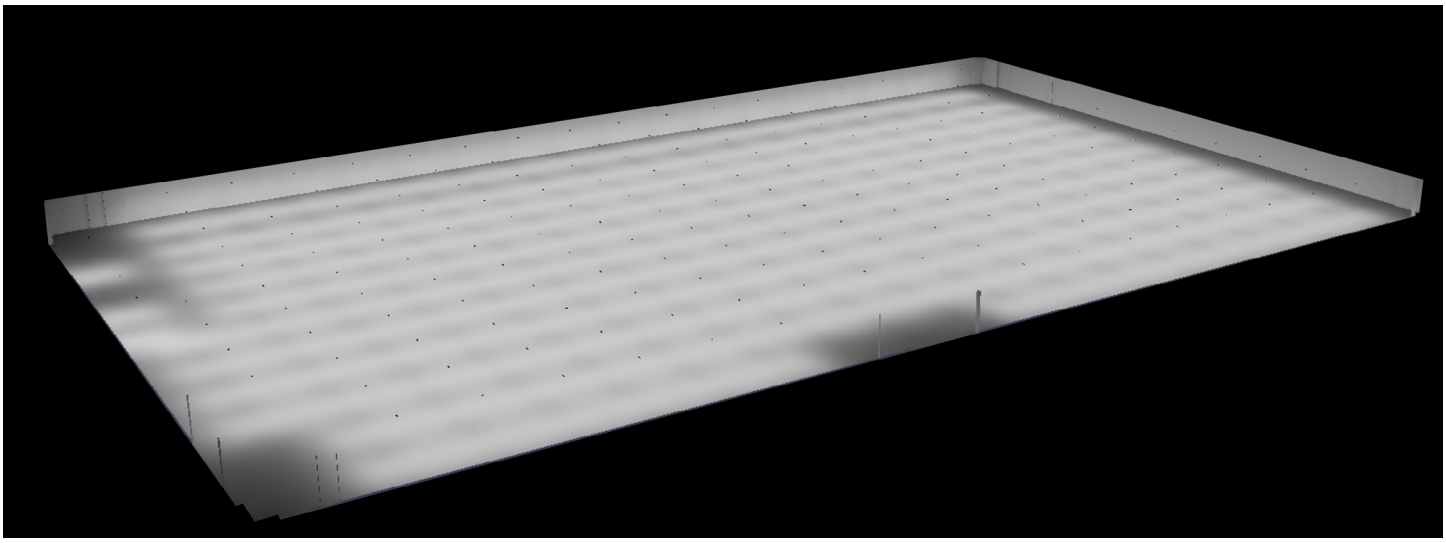


High bay luminaire with ELC installed (circled).

Photometrics

CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Illuminance	Fc	1.36	2.0	0.1	13.60	20.00

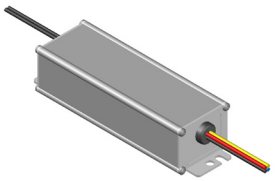




Signtex Products Used

Central Battery System

Learn More



ELC P4-CH2-HV
Type P4 with 480VAC switching and 2-channel output

Learn More

Local circuit monitor (LCM) panels.

Credit: City of Sterling Heights